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Grade Level

6-9

Subjects

Health
Humanities
Science

Time Frame

1 class period

Teacher Materials

- KWL-Native Foods
- KCET Episode-
Native Foods

Native Foods for Today's World

In this lesson students are introduced to **traditional Native foods** in California and learn about **food sovereignty**. Students explore contemporary examples of California Native foods that range in style, method, and degree of tradition. Students learn that Native foods are diverse, tasty, and healthy.

Teacher Background

Native or Indigenous foods in North American vary dramatically depending on their geographic region. California Natives have traditionally enjoyed an abundance of food options as a result of the wide **biodiversity** of the land. The practice of **Traditional Ecological Knowledge (TEK)**, methods for tending the landscape that have been developed over thousands of years by Native people, specifically aims to ensure ample food production across California's varied landscapes.

As settlers seized land from Native peoples, regulations were put in place that banned the use of many TEK practices, such as cultural burning, traditional salmon fishing, and hunting. These practices were instead replaced with the construction of dams, the development of protected wildlands on which maintenance and "interference" by humans was severely limited, deforestation, and mining, which polluted waterways once relied upon for food. Traditional methods for obtaining cultural foods became difficult to practice.

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In addition to these environmental regulatory shifts, federal policy aimed at assimilation discouraged and forbade traditional Tribal practices, often leading to changes in diet that accompanied the placement of Native peoples onto reservations. On reservations, Native communities found themselves with little to no infrastructure, no economic prospects, and on top of that, reservations were generally located in areas that were difficult to farm. Because Natives had few, if any, food sources, the US government began to issue food rations, usually consisting of flour, coffee, tea, and beef. This massive shift in the types of foods consumed by Natives has led to enormous health disparities. Diseases most common in Indian Country are diabetes, coronary heart disease, and obesity. Many reservation residents still depend on these rations today.

Across the United States, Tribal communities are reinvigorating their traditional foodways as a way of supporting food sovereignty. Because of the negative impact of Western food on Native health, communities are working to reintroduce traditional foods and food production methods into their communities. In many cases, this traditional knowledge was never truly lost. Some methods of supporting food sovereignty are: developing community health centers that grow and distribute healthy Indigenous foods to Native families, community gathering and hunting trips, using traditional trapping and fishing methods on traditional waterways, and envisioning Native foods through a modern lens in Native owned restaurants and businesses.

As the general public becomes more aware of the foods Indigenous to the places they live, multiple understandings are strengthened. First, it becomes obvious that Westernized, processed foods can be poisonous to the body, and are incredibly detrimental to Native peoples and people who have little access to affordable healthy foods. Westernized, **processed foods** should be consumed in limited quantities. Second, supporting Indigenous foods means supporting the ecosystem in a way that avoids overconsumption. When advocating for the consumption of **local**, Indigenous foods, communities must consider how that food is being cultivated and collected, and how humans are ensuring the health of the food web in order to promote new growth the following season. Lastly, **traditional foods** in Native communities are cultivated and consumed using culturally specific methods and ideologies, ones that are integrally connected to story, song, and ceremony. Non-Natives should take time to consider these things when thinking about how to incorporate traditional foods into their own diets so as to be respectful to Native communities who rely on these foods and avoid appropriating cultural traditions.



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Food and the Local Ecosystem:

Traditional Ecological Knowledge is based in the understanding that all organisms within an ecosystem are in relation to one another. The health of one organism is intimately connected to the health of another. In this way, understanding the Native traditional diet means building an awareness of how nurturing a healthy ecosystem is a part of human health. By using fire to support Oak tree health, for example, Natives also support the health of insect, bird, squirrel, deer, grass, and mushroom communities, and ensure a bountiful acorn crop for Native peoples. Supporting the health and biodiversity of Native grasses supports deer, insects, reptiles, flowers, rabbit, elk, human, and many other plant and animal communities. All of these organisms rely on one another in some way. The need for nutritional, reliable food sources necessitates a deep understanding of how every organism in one's local ecosystem are related.

Consuming local Native foods extends beyond meeting nutritional needs; traditional foods bring with them cultural histories and practices that are often passed down through **oral tradition**. Stories warn of the importance of maintaining spiritual balance with the natural world in hopes of receiving productive harvests. Gathering, storing, and cooking baskets made from the reeds and shoots of well-maintained plants highlight the many different plants that take part in the entire process of growing, preparing, and eating food. Eating is not just about filling one's stomach or curbing hunger. How we grow and gather food, how we store and prepare it, and finally, how we eat it, all contribute to the community's spiritual, physical, mental, environmental, and emotional health.



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Traditional Foods of the Pomo People:

Blackberries
Elderberries
Manzanita Berries
Rose Hips
Vegetables
Red Clover/Wild Flowers
Miner's Lettuce/Dandelion
Seaweed/Kelp
Cattails
Roots/Tubers
Mushrooms
Grains
Seeds/Flowers/Grasses (Pinole)
Protein
Mussels/Clams/Abalone
Venison/Elk/Rabbit
Salmon/Fish
Acorns
Hazel nuts/Nuts
Quail/Birds/Eggs



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Vocabulary

- **Indigenous:** Produced, growing, living, or occurring Natively or naturally in a particular region or environment
- **Food Sovereignty:** To achieve independence in terms of the production and provision of food. Communities who achieve food sovereignty grow, distribute, and consume their own food from their own food sources
- **Reinvigorate:** To give new or renewed strength or energy to (something or someone): to invigorate (something or someone) again
- **Nutrition:** Related to eating foods that provide the nutrients needed to live. Nutrients found in food and drink help provide energy to the body.

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Engage

Lead students through the following writing prompt:

Quick Write: Every family has its own traditions around food. Describe one of your favorite foods from your family's culture. When do you eat this food? Why? Do you know why the food is important to your family?

Explore

Explain to students that Native people all over the country eat in different ways, depending on their local ecosystem. While Natives in Northern California have acorns as a staple food, Natives in the desert areas of California may value cactus and other Indigenous foods to their area. Tribes frequently traded foods with one another across regions, and so many Natives had access to foods that grew outside of their local region. This lesson explores a bit of the history of Native food, how it has changed over time, what the impacts of Western foods has had on Native health, and lastly, how Natives are eating their traditional foods today.

Provide students with the **Native Foods: KWL worksheet**. Explain to students that the next set of lessons explores the relationship between our ecosystem, our food, and our health as people.

The **KWL brainstorm** allows students to reflect on their prior knowledge and begin to build curiosity. Students complete the “**I Know**” and “**I Want to Know**” sections before watching the featured short films in this lesson. You may choose to do a class KWL to hang in the classroom for reference.

Provide students with the **Native Foods for Today's World film notetaker**.

Project the first film (we recommend watching the TED Talk “**Indigikitchen**” first, since it emphasizes health). Review the questions with students

Indigikitchen: <https://www.youtube.com/watch?v=1N6e0DnGq38>

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Repeat the process with a second film. We recommend “**KCET: Decolonizing Diet**,” as it clearly connects culture, food, and health. Many similar films exist on revitalizing traditional foods, so feel free to substitute either film.

KCET: Decolonizing Diet: <https://www.kcet.org/shows/tending-the-wild/episodes/decolonizing-the-diet>

Explain

Return to the **Native Foods: KWL chart**. Ask students to fill out the “**What I Learned**” section and add to the “**What I Want to Know**” section. You may choose to return to this chart after any of the following lessons to have students add to their knowledge.

Explain to students that Native or Indigenous foods are important for the health and wellness of Native people, but they are also important for non-Native people living in the United States.

This is because when we eat food that is locally Indigenous to our towns, we center the health of our local ecosystems in our eating. For example, when we rely on foods that are imported or processed in other places, we may feel less responsible for our local food webs, since we do not rely on them for our food. This can lead to abuse and mistreatment of the ecosystem.

Ask students to consider: **if they relied on berries or acorns for their diet, would they do things to pollute or ruin the environment that berries or oak trees grow in?**

Here, it might be helpful to remind students that Oak trees are not only a source of food for Native people, but also a source of food for many other organisms. Even if a person doesn't eat acorns or Native traditional foods, every plant in our ecosystem provides some kind of essential service to the organisms in the ecosystem in which we live. Because of this, even non-Natives benefit from supporting Native food webs.

Learning about what foods are local to your environment is one way to support local Native communities. Another way is to support local efforts to connect Native people with their traditional foods.

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Elaborate/ Extend

Next, explain to students that they are going to read about youth around their age who are working to connect their community with Native local foods.

In partners, have students read and answer analysis questions for the reading “**Modern Traditions: Youth Acorn Bites Program**”

Once students are finished, return to the **KWL** and fill in more information.

As an extension, you may provide students with the link to the **Indigikitchen youtube channel** and ask them to explore some of the featured recipes. Episodes are about a minute long.

Indigikitchen youtube channel:

<https://www.youtube.com/channel/UCO9I8GT8I3HX5f4Z1xKCV4A>
[UCO9I8GT8I3HX5f4Z1xKCV4A](https://www.youtube.com/channel/UCO9I8GT8I3HX5f4Z1xKCV4A)

Evaluate

As a class, discuss the following questions:

1. **What are some reasons that Native or Indigenous foods are healthy?**
2. **What is the cultural significance of eating the foods of one's ancestors?**
3. **What are some of the challenges that Native people have in accessing their traditional foods?**
4. **What are people your age doing to promote Native foods?**

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Lesson Resources

Supporting resources for educators:

- **Unnatural Causes Native Health Video:** https://unnaturalcauses.org/video_clips_detail.php?res_id=216
- **KCET Salmon Wars:** <https://www.pbssocal.org/shows/tending-the-wild/salmon-fish-wars-klamath-river-susan-masten-raymond-mattz-diane-bowers>
- **Indian Health Services:** <https://www.pbssocal.org/shows/tending-nature/episodes/healing-the-body-with-united-indian-health-services>
- Indigikitchen: <https://www.youtube.com/watch?v=1N6e0DnGq38>
- Decolonizing Diet: <https://www.pbssocal.org/shows/tending-the-wild/episodes/decolonizing-the-diet>



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Learning Standards

CA Indian Essential Understandings

Essential Understanding 2: California Indian identity is individual and the range of Tribal identity from assimilated to traditional is unique to each individual. The diversity of identity means there is no standard or cookie cutter appearance or behavior. There is no generic American Indian, in California, or in the United States.

Essential Understanding 4: California Indian peoples' histories and cultures have been and continue to be impacted by foreign, state, and federal policies. Policies developed during the Mission Period, the Gold Rush Allotment, the Boarding School Period, termination policies, and self-determination policies are integral parts of the history of tribes in California.

Essential Understanding 5: Land and place are unique and inextricably tied to Tribal cultures.

CA Content Standard

California Health Standards

1.1.N Describe the short- and long-term impact of nutritional choices on health.

1.5.N Differentiate between diets that are health-promoting and diets linked to disease.

1.10.N Identify the impact of nutrition on chronic disease.

Common Core:

CCSS.ELA-LITERACY.RI.7.1

Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

CCSS.ELA-LITERACY.RI.7.2

Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.



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California Environmental Principles and Practices

Principle 5 - Decisions Affecting Resources and Natural Systems are Complex and Involve Many Factors

Concept B. The process of making decisions about resources and natural systems, and how the assessment of social, economic, political, and environmental factors has changed over time.

Name: _____

Date: ____/____/____

KWL: Native Foods

I know...	I want to know...	I have learned...

Native Foods for Today's World

Name: _____

Date: ____/____/____

MODERN TRADITIONS: Native FOODS FOR TODAY'S WORLD

Native people around California are working hard to revitalize (bring energy and new life to) traditional foods. In the following short films, you will learn about organizations who are cooking Native foods for modern taste buds. Use examples from each film to answer the questions below.

Film #1 Title:

1. How are traditional foods connected to culture? What are some cultural practices related to food? (ie. art, music, stories, spiritual practices, environmental practices, celebrations, etc.)
2. What physical health challenges come from eating processed and/or non-traditional foods?
3. How can traditional foods be included in the 21st century diet?

Native Foods for Today's World

Name: _____

Date: ____/____/____

MODERN TRADITIONS: Native FOODS FOR TODAY'S WORLD

Native people around California are working hard to revitalize (bring energy and new life to) traditional foods. In the following short films, you will learn about organizations who are cooking Native foods for modern taste buds. Use examples from each film to answer the questions below.

Film #2 Title:

1. How are traditional foods connected to culture? What are some cultural practices related to food? (ie. art, music, stories, spiritual practices, environmental practices, celebrations, etc.)

2. What physical health challenges come from eating processed and/or non-traditional foods?

3. How can traditional foods be included in the 21st century diet?

Name: _____

Date: ____/____/____

MODERN TRADITIONS: YOUTH ACORN BITES PROGRAM

Directions: Read the following article. Answer the questions following each section of reading.

BY STEPHEN NETT

Indigenous Foodways, Local Food, Nutrition Posted on: November 15, 2019

In late fall, the parched hills of Northern California are wilting hot, but relief can be found in the dark patches of shade cast by towering Native oaks. Some are hundreds of years old, with spreading limbs as thick as human torsos.

In Lake and Sonoma Counties, this is the season Indigenous people once harvested vast stores of ripe acorns, a staple food in Native diets for thousands of years. A small group of Pomo and Miwok youth from nearby Tribal communities are gathering beneath oak groves here to once again harvest the acorns produced in abundance by the ancient wild trees.

These acorns are destined for **Acorn Energy Bites**, a modern, tasty two-bite health snack the young people began selling this summer. Nearly four years in development, Acorn Bites have been selling out at local farmers' markets since June.



Photos of youth volunteers making Acorn Energy Bites along with the finished bites and packaging.

In 2016 the Tribal Youth Ambassadors Program received a National Arts and Humanities Youth Program Award from Michelle Obama at the White House.

The snack bar is a Native food project of the Tribal Youth Ambassadors of the nonprofit California Indian Museum and Cultural Center (CIMCC) in Santa Rosa, California. The Ambassadors, with about 20 current members, are students ranging from grade school to college.

The Tribal Youth Ambassador program has existed since 2010 as a resource for local Pomo and Miwok youth. *"Tribal youth often find themselves challenged about who they are culturally,"* says Nicole Lim, the executive director of the CIMCC; she added that the program aims to develop pride, and help them learn how to deal with racism and stereotypes in school. She said her teenage daughter has been called Pocahontas and asked if she lives in a teepee. Early California history is still largely taught from the colonial perspective.

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Ambassador projects provide young people with opportunities to learn ancestral traditions, cultural heritage, and pride. Projects and activities frequently focus on ways of transferring traditional knowledge from elders, like foodways. The 12- to 18-year-olds also learn skills, training in history and public speaking, that they can use to represent Native communities, to create bridges between the Tribal community and non-Natives.

The Acorn Bites project began with research, a detailed Tribal food sovereignty assessment in 2016 to identify underlying Tribal concerns about food traditions and food security, access to wild traditional foods, and ways of preserving and transferring Tribal knowledge.



Meyo Marrufo, a Pomo Miwok Tribal member, leads a workshop on traditional acorn preparation.

One of the young Ambassadors came up with the idea of using traditional acorn in a modern protein bar.

It was a project that would tie in efforts to transfer Tribal knowledge, restore traditional foods, and integrate Tribal traditions in everyday life.

Such efforts are part of a rising trend among Tribal communities across the country. Projects to reclaim Indigenous foodways and promote food sovereignty are underway nationwide, to both improve Tribal health and recover sustainable traditions. Indigenous chefs are creating renewed interest in traditional diets and foods through cookbooks and restaurants, while Tribal groups are re-introducing healthy Native foods and agricultural practices.

And because Acorn Bites rely on traditional Tribal foods that U.S. government policies often put out of reach or off limits to Indigenous communities, *"It's also an act of resistance,"* says Octavio, one of the Youth Ambassadors.

Name: _____

Date: ____/____/____

READING CHECK:

- 1. What is the purpose of the Youth Ambassadors project? What goals does the group want to achieve?**
- 2. Why would tribes want to restore traditional food practices? What are some of the benefits?**

A Traditional Food Targeted by Colonizers

Acorns have a very long role in Indigenous diets. In California, Indigenous people tended trees that produce acorns in the wild landscape, and their acorns were consumed in various forms for at least 5,000 years. Ten species of oak produce acorns in California, and research suggests that acorns accounted for up to 50 percent of California Indigenous diets.

Acorns, it turns out, are also low on the glycemic index. Acorns' sugars are absorbed slowly, a beneficial dietary aid to help ward off diabetes, according to one study. As a snack, they not only provide healthy carbs, they're also high in protein, potassium, magnesium, calcium, and vitamin B6, a blend that is mimicked by commercially prepared energy bars.

Acorns are also a keystone of Tribal culture and traditions. Throughout California, Indigenous people evolved highly specialized traditions for grove stewardship, acorn harvest and storage, and the labor-intensive, multi-step processing required to make them tasty. The seasonal cycle of activities surrounding acorns involved the community and undergird cultural bonds.



Cultural educator demonstrates ways of preparing acorn mush.

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Those foodways, however, were swept aside first during the Spanish colonization, then by Gold Rush settlers, and ultimately by the state-sponsored removal of remaining Indigenous people from their highly productive lands and waterways. Within two decades of the Gold Rush, as Tribal communities in California were killed, displaced, or legislated off their land, they were effectively barred from access to food sources and traditions across the California landscape.

"Our culture was targeted," Lim says. "At the time, the idea was 'kill the food, kill the culture.' So, to survive, the traditional practices had to be hidden."

After colonization, Indigenous diets changed, and so did the health of the community. Now, among all racial groups, California Indigenous adults have the highest rate of obesity, 38.7 percent, and the second highest age-adjusted mortality rate for diabetes, 33.9 per 100,000 in 2010.

READING CHECK:

- 1. Explain three reasons that learning traditions around acorns is important to Native peoples:**
- 2. How did settler/colonial governments keep Native people from accessing their traditional foods?**
- 3. How did losing access to traditional foods impact the health of the Native community?**

Name: _____

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Taste Testing a Fickle Ingredient

The process of creating Acorn Bites began by asking Tribal community members to share traditions and oral histories of harvesting oak acorns, the ways of preparing them, and their place in the daily diet.

Processing acorns is labor intensive and multi-step. After gathering and sorting, they must be shelled, ground, and the meal leached repeatedly with water to remove bitter tannins.

Procuring the key ingredient of the bars is a time-consuming process that requires specific skills, and Lim says each family has their own traditions. It involves identifying the best trees, figuring out the timing of their acorns ripening, knocking the nuts free, and sorting the wormy ones from the fresh. And that's just the start.

"Acorns have a bad rep because they can taste bitter," Octavio explains. That bitterness comes from high levels of tannins, compounds that preserve the acorn but also make them less palatable to humans. The tannins can be removed, but only by repeatedly leaching with water.



The Tribal Youth acorn workshops provide an opportunity to transfer foodways knowledge to a new generation.

To figure out the best way to prepare the harvested acorns, the group interviewed six community culture-bearers, who shared traditional knowledge about ways of selecting and sorting the acorns, drying and shelling them, storing them, grinding them, and leaching the raw meal.

To create a universally pleasing product, the Ambassadors recruited help from Native American chef Crystal Wahpepah. A Kickapoo tribe member, Wahpepah has crafted Indigenous food menus for her own catering and café businesses in Oakland. *"We spent several years researching ingredients, testing recipes, while trying to preserve the integrity of pre-colonial foods,"* she says.

The youth mixed acorn flour with various blends of berries, nuts, and other Native ingredients and did taste tests with the community, Lim says. *"Many were surprised by the nutty, sweet flavor,"* she says. *"Acorns usually have a mild, bitter taste. They don't combine well with just anything. Acorn is a fickle ingredient,"* she adds, smiling.

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When the youth tested the bites first with the elders, Wahpepah says, *"they tasted awesome, especially the dried cherry and pine nut flavors."*

Octavio, Kristall, sisters Colleen and Pauline, Maleah, and seven other young Tribal Ambassadors mix and shape the Acorn Bites in a commercial kitchen at the CIMCC. Around long tables in the CIMCC kitchen, the students separate the shelled nutmeats, tossing any that aren't fresh and plump. After grinding, they run water through the meal multiple times to leach out the bitter, indigestible tannins. Then, they mix acorn meal in silver bowls with other ingredients and form them into two-bite sized balls.

READING CHECK:

- 1. How did the Youth Ambassadors design a recipe that was both traditional and tasty for modern eaters? What was their process?**

Name: _____

Date: ____/____/____

Securing Access to Ancestral Lands

The project faces some difficult challenges, Lim notes. How does a community restore Indigenous food traditions when the food sources are fenced off on private property, or gathering is prohibited by law?

Community members harvesting acorns, she says, have been confronted by rangers. Permits are required on public lands, but obtaining them is complicated, since each government agency has its own process. Gathering is also restricted to a particular place, date, and time.

There have even been public objections from people concerned that Native harvesting of acorns threatens wildlife. Lim recalls being asked at a recent local meeting, *"Instead of plundering, why can't you just go to the store?"* The larger community does not always understand or respect, Lim notes, that Native people and wildlife have coexisted here for many thousands of years.

Acorns, still abundant, are a nutritional Tribal food. But accessing California's oak groves, like those on the hillsides in Sonoma county parks, is an ongoing challenge.

That's why one of the goals of the Ambassadors, Lim says, *"is to build bridges and respect for efforts to revitalize our culture."* In coming months, CIMCC and the youth group will explore cultural sensitivity training and plans for community engagement in three surrounding counties.

CIMCC is also currently seeking ways to restore access to oak groves through creative stewardships with property owners. *"Our ancestral lands and waterways hold our diets,"* Lim says. They've already had some success; after a recent local newspaper article, CIMCC received calls from county residents with offers of access to acres of old, wild oaks.

The Acorn Bites themselves have turned out to be particularly popular. *"Some people have driven up from the Bay Area just to buy them."* Maleah says. But even as the public has embraced their idea of modernizing the traditional acorn, Lim says it has raised some issues with appropriation. The Ambassadors are often asked for their recipe and process by non-Natives, who want to make Acorn Bites themselves.

Proceeds from sales of the Acorn Bites are funding Youth Tribal Ambassador projects, including the next phase of efforts to help assess food security issues in the Tribal community, and improve and promote access to Indigenous foods. The CIMCC is also communicating with neighboring Yurok and Karuk Tribal communities about regional conservancy efforts and increasing access to wild foods such as salmon.

CIMCC and the Ambassadors are investigating ways to expand access to acorns and other traditional foods as well, by partnering with Bay Area universities to conduct acorn grove mapping, networking with Indian tribes in California and other states, and improving policy and permitting with local government agencies.

Over the long term, they hope to advance Indigenous people's reciprocal relationship with—and consumption of—acorns, while advancing local Tribal caretaking, gathering, and processing of the nuts and Tribal stewardship of acorn food-system landscapes.

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"Food is the hub of the community, of everything," Lim says. "Sovereignty and food security go hand in hand. You can't have one without the other."

READING CHECK:

1. **How do the Youth Ambassadors plan to engage and teach non-Natives about their project?**
2. **How do you think non-Natives can support the Youth Ambassadors and other Native groups who wish to have better access to their traditional foods?**